

**FUTURE FISHERIES IMPROVEMENT PROGRAM
GRANT APPLICATION**

(please fill in the highlighted areas)

I. APPLICANT INFORMATION

- A. Applicant Name: Big Hole Watershed Committee (BHWC)
- B. Mailing Address: PO Box 21
- C. City: Divide State: MT Zip: 59727
- Telephone: 406-960-4855
- D. Contact Person: Jen Titus
- Address if different from Applicant:
- City: State: Zip:
- Telephone:
- E. Landowner and/or Lessee Name
(if other than Applicant): Pete Kamperschroer / Fred Lovell
- Mailing Address: PO Box 201 / General Delivery
- City: Wise River State: MT Zip: 59762
- Telephone: 406-832-3334 / 406-832-3250

II. PROJECT INFORMATION*

- A. Project Name: Wise River Irrigation Infrastructure Replacement Project - Fish Ladder
- River, stream, or lake: Wise River - Tributary to Big Hole River
- Location: Township T1S Range R11W Section 9
- County: Beaverhead
- B. Purpose of Project:
Install one fish ladder as part of a larger Wise River Irrigation Infrastructure Replacement Project. The fish ladder will allow fish passage out of the ditch system from its source at the Wise River.

C. Brief Project Description:

Wise River is the largest tributary to the Big Hole River and documented important cold water source (DEQ TMDL). The greatest impairment for the Big Hole River is low flows and high water temperatures (DEQ TMDL). The BWHC is working to improve these conditions with water savings measures and temperature buffering. The lower Wise River (9 miles) is hydrologically modified after a dam blow out in 1927 that left a straightened channel with little habitat complexity. The cold water and upstream habitat make this a logical arctic grayling refuge. While little fish data has been collected in the Wise River, fisherman and landowners report seeing and catching the fish throughout the drainage. Landowners in the Lower Wise River are active in the BWHC and willing to make conservation minded improvements for the river.

The larger Wise River Irrigation Infrastructure Replacement Project combines five points of diversion on the Wise River into one, replaces dilapidated headgate, installs one permanent diversion structure, and installs flow measurement. In conjunction, landowners will replace all interior irrigation infrastructure to allow for the change in diversion. This eliminates in-stream disruption in four locations allowing for healing of stream banks, allows water users to control withdrawals, increases safety with reduced risk of ditch blowout, and provides irrigators method for water measurement. Water measurement is a preemptive move for a proposed drought management plan for the Wise River drainage to be used in conjunction with the Big Hole Drought Management Plan. Currently, no irrigators have installed flow measurement devices on the Wise River. To date a design is complete, the points of diversion have been combined through water rights, and the funding for the headgate project is secured. Construction is expected for spring 2012. The ditch runs from the start of irrigation in the spring through mid-fall. Max water right is 25 cfs. Total project costs are near \$200,000 including landowners change of water right and interior irrigation changes. The BWHC will pay \$77,500 towards the Wise River structure replacement with funds from DEQ 319 and DNRC. Landowners will pay the remaining balance.

The BWHC is working with the landowners to approach all conservation opportunities possible with this project. The existing ditch system is a well developed channel with willow cover and slow moving waters and therefore likely attractive to fish. Fish have been seen approaching the existing headgate. We would like to install a fish ladder with this headgate to allow fish entrained in the ditch during the irrigation season the ability to migrate back to the river. As flows in the ditch are incrementally decreased in the fall, it is often difficult for fish entrained in the ditch to migrate back to the river due to the head pressure and high water velocity present at the headgate. The fish ladder will supply a means of fish escapement from the ditch back to the Wise River. A similar fish ladder was installed on the Hagenbarth diversion on the Big Hole River near Glen. An evaluation of this fish ladder indicated a 2/3 reduction in the numbers of fish left stranded in the ditch after the water was turned off in the fall (J. Olsen, FWP Fish Biologist).

In conjunction with this project, the BWHC is conducting a Wise River monitoring study to collect baseline information on fish populations, instream flow, irrigation withdrawals, and spring creek flow. Water temperature, groundwater mapping and characterization, and surface water-groundwater interaction are also being studied. The study is in partnership with DNRC, FWP, DEQ, NRCS, Montana Bureau of Mines and Geology, USFS, Beaverhead Conservation District, and landowners. This same partnership provides technical oversight for the Wise River Irrigation Infrastructure Replacement Project. The monitoring project will provide baseline information to document resource benefits and changes over time and allow for data defined decision making for future management of the Wise River drainage.

The BWHC is working with Jim Olsen, FWP Fish Biologist for fish related issues. Jim serves as a technical advisor for the project and works in partnership with the monitoring program.

D. Length of stream or size of lake that will be treated: 2 miles

E. Project Budget: \$200,000

Grant Request (Dollars): \$ **10,000**

Contribution by Applicant (Dollars): \$ 77,500 In-kind \$
(salaries of government employees are not considered as matching contributions)

Contribution from other Sources (Dollars): \$ 122,500 In-kind \$
(attach verification - See page 2 budget template)

Total Project Cost: \$ **200,000**

F. Attach itemized (line item) budget – see template

G. Attach specific project plans, detailed sketches, plan views, photographs, maps, evidence of landowner consent, evidence of public support, and/or other information necessary to evaluate the merits of the project. If project involves water leasing or water salvage complete supplemental questionnaire (fwp.mt.gov/habitat/futurefisheries/supplement2.doc).

Attachments:

A: Landowner Letters of Support

B: Budget Form

C. Supporting Photos and Maps of Project Site

H. Attach land management and maintenance plans that will ensure protection of the reclaimed area.

Note: The BHC is mandated to create and approve a land maintenance plan with landowners for this project through our DEQ 319 funding of this project. This plan will be developed and prepared winter 2012. It is not available for attachment at this time.

III. PROJECT BENEFITS*

A. What species of fish will benefit from this project?:

Westslope Cutthroat Trout, Arctic Grayling, Brown Trout, Brook Trout, Rainbow Trout, Mountain Whitefish

B. How will the project protect or enhance wild fish habitat?:

The installed fish ladder will allow fish passage out of the ditch system at the end of the irrigation season and will reduce fish loss in the ditch.

The greater Wise River Irrigation Infrastructure Replacement Project provides the background work for improved fish habitat in the lower Wise River. This project addresses five locations where push-up gravel bars moved with excavators was the method for irrigation control. The elimination of the need for in-stream excavator work allows the stream bed and stream banks to heal. The combination of points of diversion removes three opportunities for fish entrainment in ditches with a fourth under consideration, and the fifth proposed to include a fish ladder. Irrigation flow measurement and flow control provides an opportunity to maintain in-stream flows during crucial periods.

Finally, Wise River is the largest tributary to the Big Hole River. The improvements made in the Wise River will also benefit the fishery of the Big Hole River. Cold waters from the Wise River buffer Big Hole River high water temperatures and fish may seek the Wise River as cold water refuge.

C. Will the project improve fish populations and/or fishing? To what extent?:

Although not part of the requested funds, the diversion structure in the Wise River that will supply water to the headgate will be a cross channel boulder weir. It is expected that the weir will result in the development of a pool immediately downstream of the structure. The lower Wise River is very pool deficient. Although the purpose of this project is not to create fish habitat in the Wise River, the weir will likely result in the development of a high quality pool in a reach of stream with very little of such habitat.

D. Will the project increase public fishing opportunity for wild fish and, if so, how?:

No, the project is located on private property and there is no public access to the site.

E. If the project requires maintenance, what is your time commitment to this project?:

Landowners will be responsible for future use and maintenance of this project and have committed to do so.

F. What was the cause of habitat degradation in the area of this project and how will the project correct the cause?:

Heavy rains caused Pattengail Dam to blow-out in 1927. The torrent flood ripped the channel of the Wise River leaving behind huge boulders, disconnect with the flood plain, and a hydrologically modified channel with little habitat complexity. Sediment continues to enter the system from sources upstream. Annual dewatering and irrigation management perpetuates the impacts within the system. Little focus or data has been allocated to the Wise River, yet its importance as refuge and cold water source is well documented. The BHWC is interested in seeking solutions for the Wise River. This project addresses a significant section of the Wise River (the lowest 2 miles) for stream flow, stream banks and streambed, and fish passage.

G. What public benefits will be realized from this project?:

The public benefit remains with the projected improvements to the overall system with reduced habitat degradation. Water management in the Wise River will be greatly improved and fish loss in the ditch will be reduced.

H. Will the project interfere with water or property rights of adjacent landowners? (explain):

No. The irrigators listed in this project are the property owners of the headgate and irrigation system. No significant irrigators withdraw water downstream of this project on Wise River. A minuscule water right remains with the Town Ditch - one of the four points of diversion combined under this project. The future of this diversion is yet to be determined.

I. Will the project result in the development of commercial recreational use on the site?: (explain):

No.

J. Is this project associated with the reclamation of past mining activity?:

No.

Each approved project sponsor must enter into a written agreement with the Department specifying terms and duration of the project.

IV. AUTHORIZING STATEMENT

I (we) hereby declare that the information and all statements to this application are true, complete, and accurate to the best of my (our) knowledge and that the project or activity complies with rules of the Future Fisheries Improvement Program.

Applicant Signature:

Date:

Sponsor (if applicable):

***Highlighted boxes will automatically expand.**

**Mail To: Montana Fish, Wildlife & Parks
Habitat Protection Bureau
PO Box 200701
Helena, MT 59620-0701**

Incomplete or late applications will be returned to applicant.

Applications may be rejected if this form is modified.

*****Applications may be submitted at anytime, but must be received by the Future Fisheries Program office in Helena before December 1 and June 1 of each year to be considered for the subsequent funding period.*****

Attachment A

The following letters are from the two landowners involved in this project - Pete Kamperschroer and Fred Lovell. The letters are written in support of the projects primary public funding source, the Montana Department of Environmental Qualities 319 program. The letters document each landowners support for the project and details on how the project will impact their lands and operations.

November 16, 2010

Rob Ray, Watershed Protection Section Supervisor
Water Quality Planning Bureau
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Ray,

Please accept this letter in support of the 319 grant proposal made by the Big Hole Watershed Committee.

I am a landowner in Wise River and a member of the Big Hole Watershed Committee. I irrigate more than 800 acres along the Wise River. We work closely with our neighbor Mr. Fred Lovell. We work hard to do what is best for the resource and enjoy working with the Big Hole Watershed Committee to do great work in the valley.

Fred and I together currently draw water from 5 ditches, none of which have a stream gauge, or satisfactory diversion to control flow. Two of the five ditches do not have flow control structures in place. The remaining three have dysfunctional flow control structures. The Wise River Water Management Project requested here proposes to combine 5 of these ditches into one main point of diversion. The result: one fully functioning headgate that is safer and easily managed, ability to measure flows with a gage, less water lost to ditch inefficiency and therefore more water available to the river, less impact on river habitat with less in-stream alteration for diversion structures, and reduced risk of ditch failure with retirement of failing infrastructure. This also means less machinery in the river and reduced sediment problems.

I am very committed to this project. I attend Big Hole Watershed Committee meetings when able. I participated in the Lower Wise River Project Prioritization study completed by the Committee in 2010. Fred and I are working together to set the stage for construction now. To date we have on our own accord:

1. Enlisted water rights consultants to alter our water rights to accept the change from 5 ditches to one. We are in water court now and expect to have this finalized soon.
2. Requested and received a Department of Transportation Permit for alteration of a ditch adjacent to Highway 43 that would be part of the project.
3. Engaged R.E. Miller & Sons, an excavating contractor specializing in stream and irrigation projects, to assist with alteration of 4 culverts on the ditch that would carry the new flow. The existing culverts were in poor condition and appeared to not allow for adequate fish passage (this was not studied). The new culverts will be larger for higher flow and allow for fish passage. Culvert replacement will start and be completed fall 2011.

The next step in this process will be to determine the best diversion dam and headgate design for the new combined flows. Fred and I agree, at our expense, to complete this process by July 2011. We expect to be prepared to complete construction on the new headgate fall 2011 and put it into service spring 2012.

Aging and failing infrastructure is a challenge on every ranch, including ours. The results of this project will be multi-faceted. This project aims to reduce the amount of infrastructure and therefore the need to maintain that infrastructure, increase the function of infrastructure for both safety and use of water, allow measurement of water and promote overall health of the Lower Wise River and mostly to reduce stream disturbance with equipment, such as gravel berms for diversion dams.

The Lower Wise River assessment identified a lack of suitable habitat for fish in the Lower Wise River post Pattengail flood. The completion of this project will lay the groundwork for improvements to stream habitat and fisheries.

In addition, the Big Hole Watershed Committee seeks support from the DEQ 319 program for other tasks. We are committed to these as well:

- Lower Wise River Water Management: We understand monitoring is an important component to river improvements. We agree to aid in this study any way we can, including access to through and on our property.
- Stakeholder Coordination and Outreach: We enjoy attending meetings and outreach functions and support the Big Hole Watershed Committee in continuing their work.

I hope you will consider fully funding the Big Hole Watershed Committees proposal. Each piece serves an important function in our watershed. We look forward to working with the committee in completing this very important project.

Sincerely,

Dr. Pete Kamperschroer

November 8, 210

Rob Ray, Watershed Protection Section Supervisor
Water Quality Planning Bureau
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dear Mr. Ray,

Please accept this letter in support of the 319 grant proposal made by the Big Hole Watershed Committee.

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Pete and I together currently draw water from 5 ditches, none of which have a stream gauge, or satisfactory diversion to control flow. Two of the five ditches do not have flow control structures in place. The remaining three have dysfunctional flow control structures. The Wise River Water Management Project requested here proposes to combine 5 of these ditches into one main point of diversion. The result: one fully functioning headgate that is safer and easily managed, ability to measure flows with a gauge, less water lost to ditch inefficiency and therefore more water available to the river, less impact on river habitat with less in-stream alteration for diversion structures, and reduced risk of ditch failure with retirement of failing infrastructure. This also means less machinery in the river and reduced sediment problems.

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Sincerely,

Mr. Fred Lovell

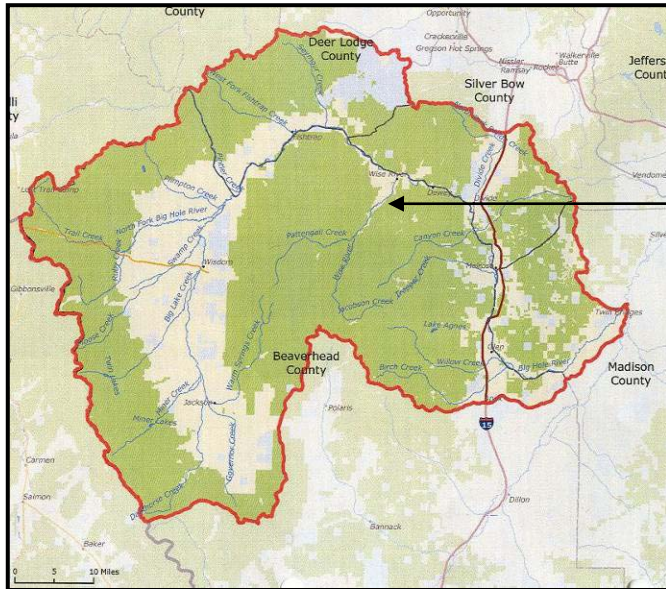
Attachment B

Future Fisheries Program Budget Forms

Attachment C

Supporting Project Photos and Maps

Supporting Photos & Maps



Big Hole River Watershed

Wise River Water Management Project



Photo 1: Wise River ditch - no flow control. Slated for abandonment.



Photo 2: Dilapidated headgate - little flow control. Slated for abandonment by listed irrigators. Minuscule flow pulled here for neighboring property. Future of water right under consideration by holder.



Photo 3: Current ditch diversion structure and proposed construction site - disturbed banks show evidence of recent and regular channel work by heavy machinery.

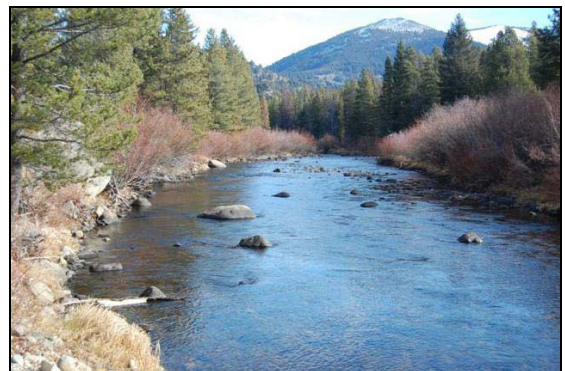


Photo 4: Typical reach of Lower Wise River.

Supporting Maps

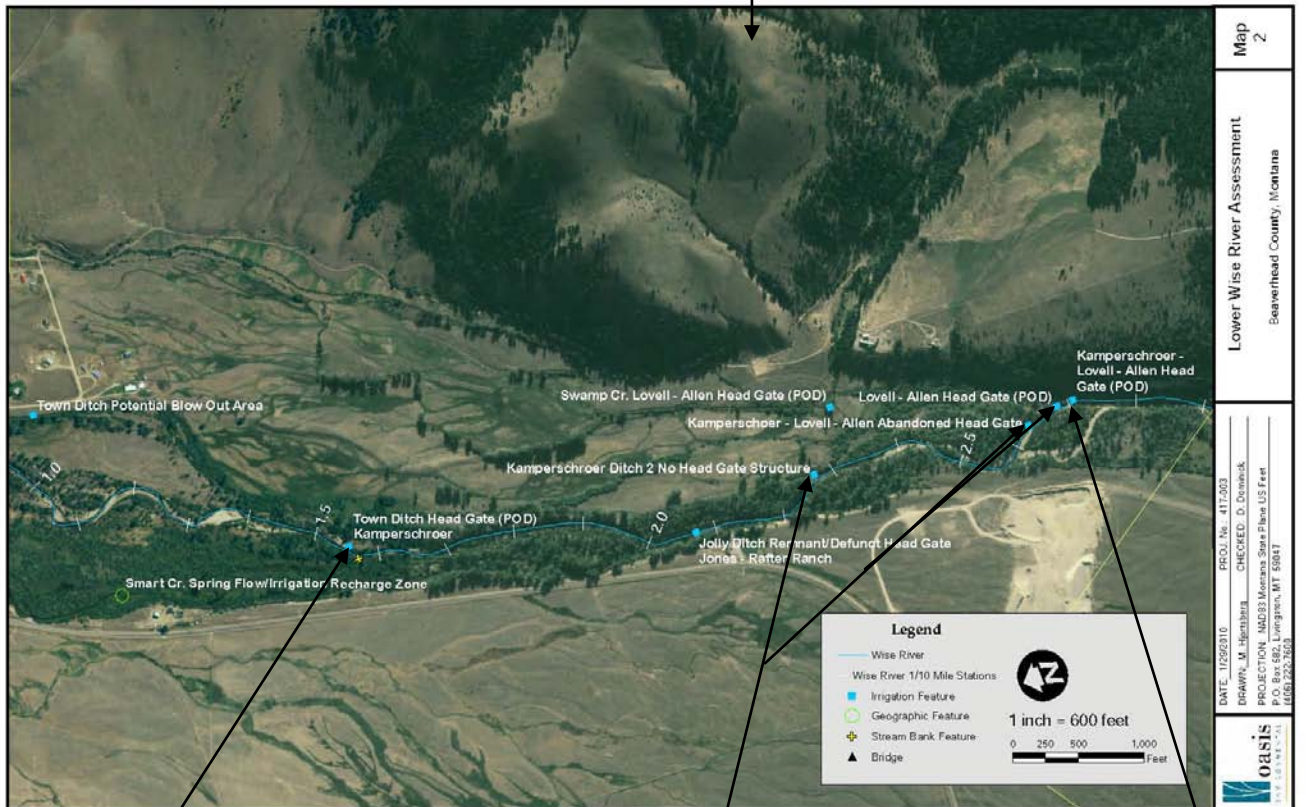
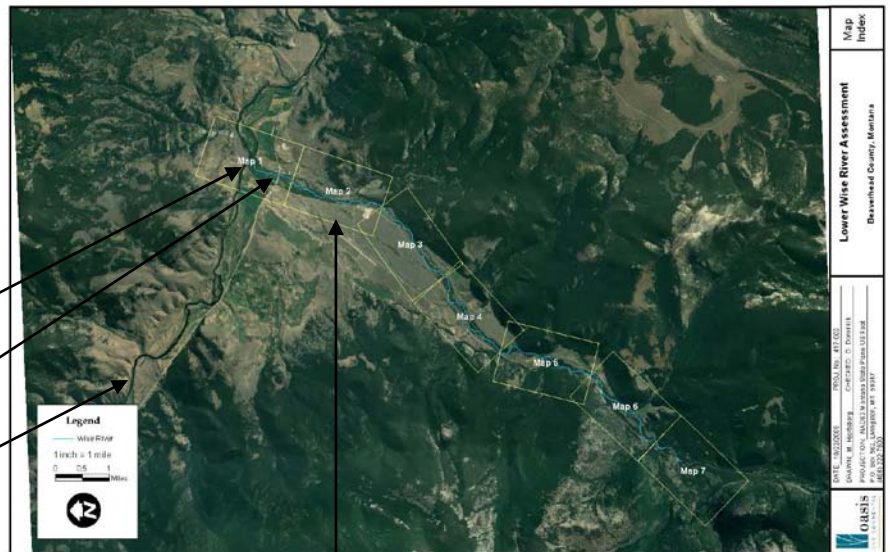
Right: Lower Wise River. Map 2 is enlarged below. Below: Wise River and site of Wise River Water Management Project.

Maps by Oasis, 2010.

Confluence of Wise River and Big Hole River.

Town of Wise River

Big Hole River



A small water right shares this headgate. Irrigation infrastructure to remain in place for other irrigators, but water for PKR-Lovell will move to proposed upper POD and accounts for most of the flow. Future of this site is under consideration of water owners.(1 site).

Current irrigation infrastructure slated for abandonment (3 sites).

Combined POD and new irrigation infrastructure for Wise River Water Management Project - River Right. Location of requested fish ladder.